C. botulinum BoNT-A Light Chain Biotinylated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: BAF4489

DESCRIPTION

Species Reactivity	*C. botulinum*
Specificity	Detects *C. botulinum* BoNTA Light Chain in Western blots. In Western blots, less than 1% crossreactivity with recombinant *C. botulinum* BoNTA Heavy Chain is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant Clostridium BoNTA Light Chain Met1-Phe425 Accession # Q45894
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Botulinum Neurotoxin Type A Light Chain (Catalog # 4489-ZN)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Botulinum neurotoxin type A is one of the seven serotypes of Botulinum Neurotoxins (BoNTs) produced by various strains of *Clostridium botulinum* (1, 2). BoNTs are synthesized as inactive single chain protein precursors and activated by proteolytic cleavage to generate disulfide-linked two-chain proteins. The 50 kDa light chain contains the catalytic domain, whereas the 100 kDa heavy chain contains an internal translocation domain and a receptor binding domain (3). BoNTs are the most potent protein toxins for humans. As zinc proteases, they cleave SNARE proteins to elicit flaccid paralysis in botulism by blocking acetylcholine release at the neuromuscular junction (2-4). *E. coli*-expressed recombinant light chains are active proteases. However, they are not toxic because they cannot enter into host cells in the absence of the heavy chains.

References:

1. Willems, A. *et al.* (1993) Res. Microbiol. **144:**547.
2. Montecucco, C. and Giampietro, S. (1993) Trends. Biochem. Sci. **18:**324.
3. Turton, K., *et al.* (2002) Trends. Biochem. Sci. **27:**552.
4. Schiavo, G. *et al.* (2000) Physiol. Rev. **80:**717.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
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